GEORGIA | PEACH STATE PATHWAYS

Career, Technical, & Agricultural Education

ACCT—ARCHITECTURAL DRAWING

PATHWAY: Architectural Drawing & Design

COURSE: Architectural Drawing & Design I

UNIT 6: Measuring with Architect Scale

INTRODUCTION

Annotation:

Students will measure using an architect's scale.

Grade(s):

x	9th
x	10th
x	11th
x	12th

Time: 5 hrs

Author: Connie Highnote

Additional Author(s):

Students with Disabilities:

For students with disabilities, the instructor should refer to the student's IEP to be sure that the accommodations specified are being provided. Instructors should also familiarize themselves with the provisions of Behavior Intervention Plans that may be part of a student's IEP. Frequent consultation with a student's special education instructor will be beneficial in providing appropriate differentiation.

FOCUS STANDARDS

GPS Focus Standards:

ACT-ADDI-1 Students will identify components related to the design process.

h. Measure using an architect's scale.

GPS Academic Standards:

SCSh9. Students will enhance reading in all curriculum areas.

ELA9RL5. The student understands and acquires new vocabulary and uses it correctly in reading and writing.

ELA11LSV1. The student participates in student-to-teacher, student-to-student, and group verbal interactions.

National / Local Standards / Industry / ISTE: ADDA, Advanced CADD skills

UNDERSTANDINGS & GOALS

Enduring Understandings:

- Students should understand how to measure using an architect's scale and why it is important for architects to use an architect's scale.
- They should understand the concept of scaling objects and the typical scales of ¼"=1'-0, 1 ½"=1'-0, 3/8"=1'-0 and ½"=1'-0.

Essential Questions:

- How do you read an architect's scale?

Knowledge from this Unit:

- Students will learn to accurately measure using an architect's scale.
- They will learn to add and subtract using feet and inches.
- The scale most commonly used to draw house plans

Skills from this Unit:

- Students will be able to measure accurately using an architect's scale.
- Given a set of working drawings, students will be able to determine the scale and accurately measure the items identified.

ASSESSMENT(S)

Assessment Method Type:

_____ Pre-test
x Objective assessment - multiple-choice, true- false, etc.
_x_ Quizzes/Tests
__ Unit test
_____ Group project
_____ Individual project
x Self-assessment - May include practice quizzes, games, simulations, checklists, etc.
__ Self-check rubrics
__ Self-check during writing/planning process
__ Journal reflections on concepts, personal experiences and impact on one's life
__ Reflect on evaluations of work from teachers, business partners, and competition judges
__ Academic prompts
_x_ Practice quizzes/tests
_____ Subjective assessment/Informal observations
__ Essay tests
__ Observe students working with partners
__ Observe students role playing
_____ Peer-assessment
__ Peer editing & commentary of products/projects/presentations using rubrics
__ Peer editing and/or critiquing
_____ Dialogue and Discussion
__ Student/teacher conferences
_ _ Partner and small group discussions
__ Whole group discussions
__ Interaction with/feedback from community members/speakers and business partners
_____ Constructed Responses
__ Chart good reading/writing/listening/speaking habits
__ Application of skills to real-life situations/scenarios
x Post-test

Assessment(s) Title:

Measuring Using the Architect's Scale.

Assessment(s) Description/Directions:

After an explanation of how the architect's scale is organized, give students a practice sheet to practice measuring using the various scales. Then give students a drawing and instruct them to measure identified areas.

Attachments for Assessment(s):

E__Unit 6 Measuring with Architect Scale_MEASURINGTEST1 Model (1)

E__Unit 6 Measuring with Architect Scale_MEASURINGTEST2 Model (1)

LEARNING EXPERIENCES

Sequence of Instruction

Introduction

1. Identify the Standards. Standards should be posted in the classroom for each lesson.

ACT-ADDI-1 Students will identify components related to the design process.

h. Measure using an architect's scale.

2. Review Essential Questions.

- How many definitions are there for the word scale?
- How do you read an architect's scale?
- What scale is most commonly used to draw house plans?

3. Identify and review the unit vocabulary.

Scale
Architect's scale
Engineer's scale
Metric scale
Nominal size
Actual size

4. Interest approach – Mental set

Students learn the concept of measuring in elementary school but do not be surprised if they do not remember how to measure accurately using fractions. Reading a scale can be frustrating for students and embarrassing if they do not know how. Give students several opportunities for practice. Allow them to work with a partner if this helps. Even though most drafting is accomplished using CAD, measuring is an important skill. Do not assume that students have already mastered this.

Lesson 1

Discussion

1. Stress the importance of measuring accurately. Explain that when measurements are not accurate, it creates questions and confusion on the building site and can create delays and add unnecessary costs to the project.
2. Provide each student with an architect's scale and a measuring worksheet.
3. Use a projection system or white board to demonstrate how to read full scale.
4. Have students practice measuring and letter their answers in the space provided and on the answer sheet.
5. Collect the answer sheets and then review the answers with the class allowing students to check their own answers. Encourage students to ask questions.

Attachments for Learning Experiences:

Notes & Reflections:

CULMINATING PERFORMANCE TASK

Culminating Unit Performance Task Title:

Culminating Unit Performance Task Description/Directions/Differentiated Instruction:

Attachments for Culminating Performance Task:

UNIT RESOURCES

Web Resources:

http://www.usfa.dhs.gov/downloads/pdf/nfa/engineer-architect-scales.pdf

http://www.ehow.com/how_4477903_use-architects-ruler.html

Attachment(s):

Materials & Equipment:

Architect's scale

What 21st Century Technology was used in this unit:

	Slide Show Software		Graphing Software		Audio File(s)
x	Interactive Whiteboard		Calculator		Graphic Organizer
	Student Response System		Desktop Publishing	x	Image File(s)
	Web Design Software		Blog		Video
	Animation Software		Wiki		Electronic Game or Puzzle Maker
	Email		Website		